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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,631	02/24/2004	Sung-Ho Kang	8054-43 (AW9005US/GJ)	3754
22150	7590	03/17/2006		
F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER KRISHNAMURTHY, RAMESH	
			ART UNIT	PAPER NUMBER

3753

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/785,631	Applicant(s) KANG ET AL.	
	Examiner Ramesh Krishnamurthy	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9,10,12-16,19 and 21 is/are rejected.
- 7) ☒ Claim(s) 3,8,11,17,18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04-06-05 4-14-05</u> | 6) <input type="checkbox"/> Other: _____ |

This office action is responsive to communications filed 06/20/2005.

Claims 1 – 21 are pending.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5, 6, 9 and 12 - 16 are rejected under 35 U.S.C. 102(b) as being anticipated by JP S62-112710.

The document JP S62-112710 discloses a mass flow controller (Fig. 1) that comprises a base having a first passage with an inlet and an outlet portion, a mass flow sensor (4, 5) connected to the first passage and adjacent to the inlet portion, a first control valve (35) connected to the first passage and adjacent the outlet portion, a valve controller (28, 29, 30, 31, 32, 33) compares the mass flow measured by the mass flow sensor to a standard flow (represented by (32)) and a second control valve (23) having a poppet valve head and provided with a driving unit (24) and connected to the first passage adjacent to the inlet portion. A bypass portion (22) is disposed upstream of the second valve (23). The driving unit (24) for the second valve (23) comprises a motor i.e. handle (24) that is rotated by a rotary force resulting in a reciprocal movement of the poppet (37). Thus a driving screw and a driven screw are considered inherent to the driving unit associated with the second control valve (23), such elements being conventional in the art.

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 7, 10, 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP S62-112710 as applied to claims 1, 2, 6, 9 and 12 - 16 above, and further in view of Vavra et al. (US 4,858,643).

The disclosure of JP S62-112710 discloses the claimed invention with the exception of explicitly disclosing the bypass portion to include a plurality of capillaries.

Vavra discloses fluid flow stabilizing apparatus comprising a plurality of capillaries disposed in a bypass passage associated with a mass flow sensor for the purpose of ensuring laminar flow through the device.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in the device of JP S62-112710, a plurality of

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capillaries disposed in a bypass passage associated with a mass flow sensor for the purpose of ensuring laminar flow through the device, as recognized by Vavra et al. It is noted that Vavra et al. disclose both a plurality of second and third passages disposed in the bypass.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP S62-112710 in view of the prior art admitted to by the applicant.

The document JP S62-112710 discloses the claimed invention with the exception of explicitly disclosing the driving means for the second valve to include a solenoid.

The prior art admitted to by the applicant (Fig. 1) discloses that it is known in the art to use solenoids to drive the valve.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a solenoid drive means in place of the mechanical drive means in JP S62-112710 for the purpose of obtaining precise and controllable movements of the valve as evident from the prior art admitted (Fig. 1) to by the applicant.

7. Claims 3, 8, 11, 17, 18 and 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

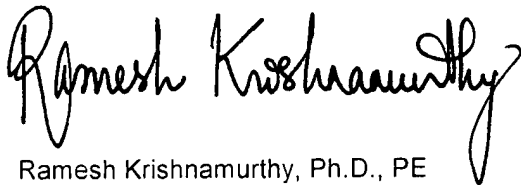
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramesh Krishnamurthy whose telephone number is

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(571) 272 – 4914. The examiner can normally be reached on Monday - Friday from 10:00 AM to 6:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel, can be reached on (571) 272 – 4929. The fax phone number for the organization where this application or proceeding is assigned is (571) 273 – 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, reading "Ramesh Krishnamurthy". The signature is fluid and cursive, with the first name "Ramesh" and last name "Krishnamurthy" clearly distinguishable.

Ramesh Krishnamurthy, Ph.D., PE
Primary Examiner
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